aphmg
Association of Professors of Human and Medical Genetics

20th Annual APHMG Workshop & Special Interest Groups Meetings

May 7-9, 2014 • Silverado Resort • Napa, California

PROGRAM

and

MEETING SCHEDULE

Useful Information for APHMG Attendees

Silverado Resort	1600 Atlas Peal Road, Napa, CA; Tel: 707-257-0200; www.silveradoresort.com
Registration, Badge and Program material pick-up	Silverado East Foyer Wednesday 7:00 am – 6:30 pm; Thursday 7:00 am – 3:00 pm
APHMG Staff Office	Beaulieu Room
Medical Genetics Residency Program Directors' SIG	Silverado East – See program for further details
Graduate Program Directors SIG	Buena Vista Room – See program for further details
APHMG Workshop	Silverado East – See program for further details
APHMG Business Meeting and Dessert Reception	Silverado East
Medical School Genetics Course Directors SIG	Buena Vista/Sutter Home Rooms – See program for further details
Clinical Laboratory Training Program Directors SIG	Martini/Trefethen Room – See program for further details
Breakfast/Lunch	Fairway Deck – Wednesday and Thursday; The Terrace – Friday
Opening Reception	The Terrace
Opening Dinner	Fairway Deck
Thursday Evening Winery Tour and Dinner	Event will be held at Merryvale Winery. Meet in front of the Sales Office (near parking lot) by 4:45 pm to board the bus. Buses will depart at 5:00 pm promptly. Return transportation from Merryvale Winery at 8:45 pm.
Internet Access	Complimentary WiFi in Silverado East Ballroom. Unlimited WiFi Access on the property, included in the Resort Fee
Cameras, Cell Phones and Video Recording Devices	Attendees are asked to be respectful of their colleagues by turning off or putting cell phones on vibrate before entering meeting rooms.
Guests (paid)	Guests are invited to participate in all meal functions but are not permitted to attend the meetings.
Carpool/Share a shuttle back to the airport	Check the signup sheet for those that would like to carpool back to the airport. See the APHMG staff for more information.
Resort Fee	The Resort Fee is $20 per day, and covers: bell gratuities and on-property transportation gratuities, self and valet parking, unlimited WiFi, tennis, daily newspaper, golf bag storage, access to work out and fitness facility plus workout classes.
Lounge/Bar	The Mansion Lounge. Open daily from 4:00 pm
Concierge	707-257-5439
On property transportation	707-257-0200
Activities	**Spa**: steam and sauna rooms, 25-meter lap pool, full menu of treatments, full-service beauty salon. **Fitness Studio:** variety of equipment, and complimentary exercise classes **Golf:** two PGA championship golf courses **Tennis:** 13 courts (3 lighted) available **Bikes:** bikes are available for rental and tours can be arranged **Bocce Ball:** three courts located at the Spa **Walk/run:** Map of Jogging trails on the property is available
Meeting Evaluation	A link to complete the online meeting evaluation will be sent to all attendees at the conclusion of the Workshop.

20th Annual APHMG Workshop and Special Interest Groups Meetings
May 7-9, 2014
FINAL AGENDA

Wednesday, May 7, 2014

7:00 am – 5:00 pm	**Registration Open**	*Silverado East Foyer*
7:00 am – 8:00 am	**Medical Genetics Residency Program Directors SIG – Breakfast**	*Fairway Deck*
8:00 am – 3:45 pm	**Medical Genetics Residency Program Directors SIG Meeting** – Refer to page 7 for Agenda	*Silverado East*
3:00 pm – 5:00 pm	**Graduate Program Directors/Educators SIG Meeting** – Refer to page 8 for Agenda	*Buena Vista*
5:00 pm – 6:00 pm	**APHMG Council Meeting** (Closed Meeting)	*Sutter Home*
6:00 pm – 7:00 pm	**Opening Reception**	*The Terrace*
7:00 pm – 8:00 pm	**Opening Dinner**	*Fairway Deck*
8:00 pm – 9:30 pm	**APHMG Business Meeting /Dessert Reception**	*Silverado East*

Thursday, May 8, 2014

7:00 am – 3:00 pm	**Registration Open**	*Silverado East Foyer*
7:00 am – 8:00 am	**Breakfast**	*Fairway Deck*
8:00 am – 10:00 am	**Plenary Session I**: **"Be Careful What You Say": Advice on Appropriate Evaluations, References and Interviews** Case-based Discussion - Cases, Comments and Questions Encouraged **Organized by**: Mira Irons, MD, ABMS **Speaker:** Ellen Rothstein, JD, Children's Hospital, Boston	*Silverado East*
10:00 am – 10:30 am	**Break**	*Fairway Deck*
10:30 am – 12:00 pm	**Plenary Session II**: Banbury III: Medical Genetics Training in the Genomic Era – Presentation and Discussion of Recommendations from February 2014 Banbury Summit regarding the evolution of clinical and laboratory training for Medical Geneticists **Organized by**: Laurie Demmer, MD, Carolinas Medical Center	*Silverado East*

	Speakers: Bruce Korf, MD, University of Alabama at Birmingham Mimi Blitzer, PhD, University of Maryland Laurie Demmer, MD, Carolinas Medical Center Gerald Feldman, MD, PhD, Wayne State University	
12:00 pm – 1:00 pm	**Lunch**	*Fairway Deck*
1:00 pm – 3:00 pm	**Plenary Session III:** Can Physician Education in Genomics Keep Pace with Advances in Science? **Organized by**: Dave Wargowski, MD, University of Wisconsin; Mimi Blitzer, PhD, University of Maryland 1:00 – 1:45 pm *Report on Medical School Curriculum Survey* **Speaker:** Jevon Plunkett, PhD, Medical Student, Stanford University 1:45 – 2:20 pm *Genomics Education for Non-Geneticists* **Speaker:** Kate Reed, MPH, SCM, CGC, The Jackson Laboratory 2:20 – 2:50 pm *ISCC Update* **Speakers:** Teri Manolio, MD, PhD, NHGRI Reed Pyeritz, MD, PhD, Perelman School of Medicine, University of Pennsylvania 2:50 – 3:00 pm *Discussion*	*Silverado East*
5:00 pm – 9:00 pm	Merryvale Winery Tour and Dinner	Buses load at 4:45 and depart at 5:00 pm at the end of the circular drive at the front of the Mansion.

Friday, May 9, 2014

7:00 am – 8:00 am	**Breakfast**	*The Terrace*
8:00 am – 11:00 am	**Plenary Session IV:** Genomics Education for Genetics Students, Fellows and Graduate Students **Organized by:** Darrel Waggoner, University of Chicago; Shoumita Dasgupta, Boston University School of Medicine **Speakers:** Teri Manolio, M.D., Ph.D., National Human Genome Research Institute Jeanette McCarthy, MPH, PhD., UCSF School of Medicine	*Silverado East*
12:00 pm – 2:00 pm	**Clinical Laboratory Training Program Directors SIG Meeting** – Refer to page 9 for Agenda	*Martini/Trefethen*
11:00 am – 12:30 pm	**Lunch**	*The Terrace*
12:00 pm – 6:00 pm	**Medical School Genetics Course Directors SIG Meeting** – Refer to page 10 for Agenda	*Buena Vista/Sutter Home*

Posters

Submitted posters for the Medical School Genetics Course Directors SIG poster session will be displayed in Silverado East Foyer throughout the meeting. Posters will be discussed on Friday May 9th.

Medical Genetics Residency Program Directors SIG Meeting
Wednesday, May 7, 2014, 8:00 am – 3:45 pm – Silverado East
AGENDA

7:00 am – 8:00 am	**Breakfast**	**Fairway Deck**
8:00 am – 8:15 am	**Welcome**, Reid Sutton	
8:15 am – 9:15 am	**Reports from the RRC/ACGME**, Reid Sutton and Laura Edgar	
9:15 am – 9:30 am	**Update on the Match**, Reid Sutton	
9:30 am – 10:00 am	**Match Discussion: One Year Pre-Requisite Training**	
10:00 am – 10:15 am	**Break**	**Fairway Deck**
10:15 am – 10:30 am	**Update on the In-service Exam**, Mimi Blitzer	
10:30 am – 11:00 am	**Report from ABMG**, Mimi Blitzer	
11:00 am – 12:15 pm	**Plenary Session: Milestones, Competencies, EPAs, and the Next Accreditation System: Help!** **Speaker:** Joseph Gilhooly, MD Neonatologist, Oregon Health & Sciences University, Portland, OR Chair, RRC for Pediatrics	
12:15 pm – 1:00 pm	**Lunch**	**Fairway Deck**
1:00 pm – 2:45 pm	**Break-out Sessions**	
	Pediatric Workgroup Joan Stoler and Jacquelyn Roberson	**Martini**
	Adult Workgroup Fuki Hisama	**Trefethen**
	Prenatal Workgroup Susan Klugman	**Buena Vista**
	Cancer Workgroup Jodi Hoffman	**Sutter Home**
	Clinical Lab Workgroup Tao Wang	**Silverado East**
	QI Workgroup Nat Robin	**Silverado East**
	Research Workgroup Jacquelyn Roberson	**Beringer**
	Biochemical Workgroup Katrina Dipple	**Chappellet**
2:45 pm – 3:45 pm	**Report from Break-out Groups/Next Steps**	**Silverado East**

Graduate Program Directors/Educators SIG Meeting
Wednesday, May 7, 2014, 3:00 pm – 5:00 pm – *Buena Vista*
AGENDA

3:00 pm	**Welcome** Mimi Blitzer
3:05 pm – 5:00 pm	**Group Discussion**

Clinical Laboratory Training Program Directors SIG Meeting
Friday, May 9, 2014, 12:00 pm – 2:00 pm – Martini/Trefethen
AGENDA

12:00 pm	**Welcome** Tina Cowan
12:05 pm – 12:15 pm	**ABMG Report** Mimi Blitzer, University of Maryland
12:15 pm – 2:00 pm	**"Milestones Project" for Clinical Lab Fellows** What are milestones & why are they an effective training standard Review of some example lab milestones Break out groups, each to create a milestone or identify a topic for milestone development Re-group to share small group ideas Create a plan to continue this process throughout the year

Medical School Genetics Course Directors SIG Meeting
Friday May 9, 2014, 12:00 pm – 6:00 pm – Buena Vista/Sutter Home
AGENDA

12:00 pm – 12:30 pm	**Welcome,** *Kathy Hyland* **Updates/Announcements** Genetics Education Resource Exchange (GERE), *Kate Garber* Review of Genetics on USMLE, *Darrel Waggoner, Reed Pyeritz*
12:30 pm – 1:00 pm	**Genetics Curriculum Survey,** *Shoumita Dasgupta, Jevon Plunkett* How can we as Course Directors use the survey data? How are Course Directors using the Genetics Core Curriculum Competencies? Next Steps
1:00 pm – 2:30 pm	**Genetics Education Across the UME Continuum,** *Karen Weisbecker, Kate Garber* **Presentation and discussion of curricula from two institutions** *Lori Potocki, MD, Baylor College of Medicine* *Nat Robin, MD, University of Alabama, Birmingham*
2:30 pm – 3:00 pm	**Poster Session and Coffee Break**
3:00 pm – 4:00 pm	**Flip and Elevate Part 1: How to use Active Learning Modalities to Elevate the Level of Learning in the Classroom,** *Kathy Hyland* Principles of Active Learning and Flipped Classroom What holds us back? Brainstorm hindrances and solutions Beyond ARS: Elevating the level of learning
4:00 pm – 4:30 pm	**Discussion: What and How Should we be Teaching Medical Students About Genomic Medicine?,** *Jeanette McCarthy, Darrel Waggoner*
4:30 pm – 5:30 pm	**Flip and Elevate Part 2: Developing a Genomic Medicine Flipped Classroom Session,** *Kathy Hyland* Develop a genomic medicine “flipped classroom” session to use at your own institution!
5:30 pm – 5:40 pm	**Elections,** *Darrel Waggoner*
5:40 pm – 6:00 pm	**Future Directions, Wrap Up,** *Kathy Hyland*

2013/2014 APHMG Officers and Council

Laurie Demmer, MD, President (2013-2015)
Clinical Genetics Program
Department of Pediatrics
Carolinas Medical Center
PO Box 32861
Charlotte, NC 28232-2861
Tel: (704) 381-6810; Fax: (704) 381-6811
Email: Laurie.Demmer@carolinashealthcare.org

Mira Irons, MD, Past President (2013-2015)
American Board of Medical Specialties
222 North LaSalle Street, Suite 1500
Chicago, IL 60601-1117
Tel: (312) 436-2603; Fax: (312) 436-2703
Email: mirons@ABMS.org

Miriam G Blitzer, PhD, Past President (2012-2014)
University of Maryland
School of Medicine
655 W. Baltimore Street, BRB11-037
Baltimore, MD 21201-1559
Tel: (410) 706-4065; Fax: (410) 706-6105
Email: mblitzer@peds.umaryland.edu

Darrel Waggoner, MD, Secretary-Treasurer (2012-2015)
University of Chicago
Human Genetics, Ped/MC 0077
5841 S. Maryland Avenue, Room L161
Chicago, IL 60637
Tel: (773) 834-0555; Fax: (773) 834-0556
Email: dwaggone@genetics.uchicago.edu

Shoumita Dasgupta, Ph.D. (2013- 2016)
Boston University School of Medicine
Medicine, Biomedical Genetics Section
72 East Concord St L-317H
Boston, MA 02118
Tel: (617) 414-1580
Email: dasgupta@bu.edu

V. Reid Sutton, MD, Council Member (2011-2014)
Molecular and Human Genetics
Baylor College of Medicine/Texas Children's Hospital
CC1560
6701 Fannin Street, Suite 1560
Houston, TX 77030
Tel: (832) 822-4292; Fax: (832) 825-4294
E-mail: vsutton@bcm.edu

David Wargowski, MD, Council Member (2012-2015)
University of Wisconsin
Pediatrics
1500 Highland Avenue
Madison, WI 53705
Tel: (608) 265-4806
Email: wargowski@pediatrics.wisc.edu

APHMG Meeting Staff

On-site Office: Beaulieu

Jane Dahlroth, CEM, CMP-HC
ACMG/APHMG
Director of Meetings
jdahlroth@acmg.net

Penelope Freire, CMP
ACMG/APHMG
Meetings Coordinator
pfreire@acmg.net

POSTER ABSTRACTS FOR THE MEDICAL SCHOOL COURSE DIRECTOR'S SIG

POSTER #1

Andrew K. Sobering, PhD
St. Georges University
E: asobering@sgu.edu

Using Interactive Audience Response Devices (Clickers) in a Team Based Learning Session
Andrew Sobering, St. George's University

Students participated in a voluntary, interactive Team-Based-Learning (TBL) session utilizing an audience response system (clickers). Multiple choice questions were presented, each with a 60 to 90 second time constraint. Student responses and correct answers were not displayed. A 25 minute discussion session followed; students were encouraged to break into teams to discuss concepts associated with the questions. Finally, a second poll was taken with a 30 to 45 second time limit. After each question, the correct answer and the percentage of students who scored correctly from before and after the discussion session was revealed. At this point, the facilitator had the option to address issues stemming from student responses. This session revealed the following:

1. Time constraints during question polling created an efficient pace for the session.
2. The TBL session functions better with the above format as opposed to sessions where each question had its own two minute discussion period between first and second polls.
3. Student feedback was overwhelmingly positive regarding as compared to previous efforts.
4. Analysis of exam performance revealed a significant improvement in test scores among those students who attended the session.
5. TBL in this format is effective as a learning tool and does not require investment of infrastructure as the session may be done in a traditional lecture hall, without requiring help from additional faculty.

Statistical analysis of data obtained and suggestions for further improvement of the session are presented in this poster.

POSTER #2

Helga V. Toriello, PhD,
Michigan State University College of Human Medicine,
E: Toriello@msu.edu

Using Fictional Clinical Cases to Teach First Year Students how to Research Genetic Conditions
Helga V. Toriello, PhD

The College of Human Medicine (CHM) at Michigan State University has a traditional curriculum which consists of 1 year of didactic lectures (first year), 1 year of practice-based learning (PBL) centered around 9 domains, and 2 years of clinical rotations. The genetics course is offered during the second half of the first term of year 1, and consists of 32 lectures. In the past, grades were determined solely on student performance on two "midterm" and one final examination. As an experiment, homework exercises were developed as a means to increase student engagement in medical genetics. One of the homework assignments is based on what the students learned in the molecular biology portion of the course; students are asked to explain to a fictional patient whether genetically modified salmon was safe to consume. The second assignment is a fictional paper case which the students are asked to research and answer questions on this fictional case. Fifty different cases were developed, and are randomly assigned to students. The students are asked to come up with a reasonable diagnosis and to answer 5 questions about that diagnosis (e.g., risk, cause, differential diagnosis, etc.). Students are not graded on whether or not they had the correct diagnosis, but rather how they answered their questions based on that diagnosis. However, 80% of these first year, clinically-naïve students came up with the correct diagnosis. This presentation will provide examples of the paper cases as well as examples of student responses to these clinical cases.

POSTER #3

Jevon Plunkett-Rondeau, PhD
Stanford University School of Medicine
E: Jevon.plunkett@gmail.com

Katherine Hyland, PhD
UCSF School of Medicine
E: Katherine.hyland@ucsf.edu

Shoumita Dasgupta, PhD
Boston University School of Medicine
E: dasgupta@bu.edu

The Inclusion of Genetic Testing of Students in Medical School Genetics Courses

Jevon Plunkett-Rondeau[1], Katherine Hyland[2], Shoumita Dasgupta[3].

[1]Stanford University School of Medicine, [2]University of California, San Francisco School of Medicine, [3]Boston University School of Medicine.

Recent trends, such as increased accessibility and declining cost of sequencing genomes, have extended the role of genetics in medicine beyond rare disorders. The impact of genetics on diagnosis and clinical management will likely increase as our understanding of genetic influences on conditions and their treatment deepens and as new technologies are developed. To utilize genetic information effectively, students must have a strong foundation with which to maintain currency and competence as new applications of genetics are discovered. One strategy proposed to enhance student engagement and comprehension is the inclusion of active learning exercises employing results from genetic testing of mock patients or medical students themselves in genetics courses.

In a survey of US and Canadian medical genetics course directors, we evaluated current practices and concerns regarding the inclusion of genetic testing of students. 100 of 153 identified course directors participated in an online questionnaire between September 2013 and March 2014. Of 100 respondents, 14 currently incorporate genetic/genomic testing of students as a curricular exercise and another 7 plan to do so in the future. Of those who test students, a variety of methods have been used: genome sequencing (n=4), microarray (n=3), karotyping (n=3), 23andMe or similar product (n=3), and analysis of a few selected genes (e.g. pharmacogenetic variants, n=3). Several courses using genetic testing addressed ethical concerns by seeking IRB approval (n=2), providing genetic counseling to students (n=2), providing students with only their own results (n=3), or reporting deidentified results from class as a whole (n=2). Programs that have chosen not to include genetic testing most often cited ethical concerns for not doing so, including potential harm from identifying abnormal variants or privacy concerns, expense, and lack of adequate resources such as genetic counseling. Controversy over inclusion of genetic testing of students has led a number of courses to seek alternative methods for students to interpret genetic testing results, such as reviewing public data or touring clinical laboratories. Inclusion of student genetic testing remains controversial, but has been used in a small number of medical genetics courses that safeguard students against ethical concerns by including IRB review, private results, and/or genetic counseling.

POSTER #4

Shoumita Dasgupta, PhD
Boston University School of Medicine
E: dasgupta@bu.edu

Shankar Mundluru, MBE
Boston University School of Medicine
E: shankarm@bu.edu

Medical Students' Attitudes Toward the Decision to Pursue Genetic Testing for Huntington's Disease

Shankar Mundluru and Shoumita Dasgupta, Boston University School of Medicine

Purpose:

Predictive testing for Huntington's disease (HD) has allowed patients at risk to ascertain their likelihood of developing the disease. It was thought that since the test was introduced, a relative majority of patients would pursue testing. However, only a small minority of patients has done so (4-15%). No studies have looked at the personal biases of health professionals towards testing and their effects on patient decisions. We aim to study these biases in medical students and analyze the ethical implications of their influence on patient care.

Methods:

First year medical students were given lectures on the features of and testing for HD. They then attended a patient session featuring a family directly affected by HD. Students wrote responses to a series of questions related to the session's influence on their future medical careers and personal decisions to pursue genetic testing for HD. These responses were analyzed for common themes informing their responses and providing insight into the nature of their future patient care.

Results:

We received responses from 140 students. Of the 76 who responded to whether or not they would pursue testing if they were personally at risk, 69 (90.8%) said they would pursue testing, 4 (5.3%) said they would not pursue testing, and 3 (3.9%) said they were unsure. Of the 69 who said they would personally pursue testing, 27 (39.1%) mentioned being motivated in the context of planning for major life decisions, 12 (17.4%) mentioned wanting to eliminate the fear of the unknown, and 45 (65.2%) mentioned the effects of an HD diagnosis on family life in driving their decisions. Of the 34 students who responded to whether or not they would encourage patients at risk to pursue testing, 12 (35.4%) said they would encourage at risk patients to undergo testing. 22 (64.7%) said that the choice is up to the patient, and they would not influence the patient for or against testing.

Conclusion:

There is a clear disparity between medical students' and the general population's desires to get tested for HD if personally at risk. Despite this, medical students do recognize the personal nature of the decision and only a minority of students (35.4%) would encourage testing in their future patients. However, this minority (35.4%) is still a great deal higher than the percent of the general population that would get tested (4-15%). In addition, many of the 35.4% who would encourage testing were adamant about their position. These results have ethical implications of the possibility of coercion by physicians and the projection of their desires on patients.

POSTER #5

Miriam Blitzer, PhD
University of Maryland School of Medicine
mblitzer@peds.umaryland.edu

Personal Genomes in Medical Education: Pharmacogenomics

CG Perry, KA Maloney, LE Doyle, NP Ambulos Jr., RS Wachbroit,, AR Shuldiner, MG Blitzer
University of Maryland School of Medicine, Baltimore, MD

Purpose:

The discovery of an increasing number of genetic variants with clinical utility is being recognized across all disciplines of medicine. Current medical students training in this "Genomic Era" require enhanced education regarding personalized and genomic medicine to better serve their future patients. In summer 2012, the University Of Maryland School Of Medicine initiated a one-month summer elective course entitled "The Role of Personal Genomes in Medicine." In post-course surveys, students expressed interest in the opportunity to genotype their own DNA samples for pharmacogenetic variants as an educational exercise; there was little interest in personal genotyping for disease susceptibility variants. After careful planning, IRB consultation and student input, the exercise was incorporated in the 2013 summer elective. The activity involved genetic testing using a drug metabolism, excretion and transport (DMET) panel (Affymetrix), results of which were provided to students for guided analysis and interpretation along with pre- and post-test genetic counseling. Students made an anonymous decision to receive results from their own DNA or to review results from a de-identified control. The aims of this study were to: 1) assess the knowledge and attitudes of medical students toward pharmacogenetic testing, 2) identify the advantages and disadvantages of pharmacogenetic testing from a medical student perspective and, 3) determine the extent to which the use of one's own DNA enriched the educational experience.

Methods:

We surveyed medical students enrolled in the course before and after pre-test genetic counseling and after the DMET analysis and interpretation exercise was completed. Responses between surveys were compared using Fisher exact tests and Student's t-tests when paired data were available.

Results:

All 15 students chose to use their own DNA for the DMET exercise with interest/curiosity being the most commonly listed reason. Students felt that DMET analysis could be useful in the clinical setting. They felt significantly more informed about the potential findings that could result from the DNA analysis after genetic counseling compared to before genetic counseling ($P<0.001$). In all three surveys, clinical utility and stress/anxiety/confusion from results were the most frequently listed advantage and disadvantages, respectively, to using one's own DNA. Overall, students felt that using their own DNA enhanced the educational exercise and had little or no disadvantages.

Conclusion:

As medical curricula evolve to include a genomic medicine component, incorporating the use of student DNA for pharmacogenomic analyses appears less fraught with ethical and other concerns than disease susceptibility testing and may be an effective option to enrich such educational experiences.

POSTER #6

Jonathan Bernstein, MD, PhD
Stanford University
jon.bernstein@stanford.edu

Impact of a Short Feature Film on Student Engagement in a Case Based Learning Activity

Jonathan A. Bernstein, Sylvia Berekenyei, Jennifer Deitz and Maren Grainger-Monsen
Stanford University School of Medicine

During the 2013-2014 academic year we introduced the use of a short feature film about a child with VLCADD as a component of a case-based learning activity on biochemical genetics. Students prepared for the session by answering related questions on the preceding problem set, were introduced to the case by viewing a 2 minute clip and then worked in teams to solve problems related to the diagnosis and management of VLCADD. After the teams completed the case related questions, the class viewed the remainder of the 15 minute feature and participated in discussion of the impact of the condition on the day to day experiences of the patient and her family. The impact of the video on student experience was assessed through the use of questionnaires and focus groups. Comparison was made between three similarly formatted sessions on cytogenetics, molecular genetics and cancer genetics and the biochemical genetics session including the short feature. Students expressed that the short feature was valuable to their learning and expressed that it was helpful in "grounding" their learning in the patient context. Overall, the four case based learning sessions were highly rated by students. The ratings for the session with the short feature were not significantly different that for the other sessions. Student feedback will be incorporated into the design of additional features on cancer genetics and cardiovascular genetics and their integration into the course.

POSTER #7

Jennifer Fitzpatrick, MS
McGill University
jennifer.fitzpatrick@mcgill.ca

Pedigree Taking, Risk Assessment and Counseling in an Active Learning Classroom
Nancy Braverman, MS, MD and Jennifer Fitzpatrick, MS, McGill University

The Faculty of Medicine at McGill University has implemented a new curriculum for its class of 225 medical and dental students. Instructors in all subject areas were required to reduce and make more effective use of their teaching hours. Concurrent with curriculum renewal, the space used for small group teaching was converted to large, interactive classrooms. We developed a 3-hour workshop to facilitate student learning in pedigree taking, basic risk assessment and the preparation of a genetic counseling outline for use in active learning classrooms.

Students received a 1 hour lecture on Mendelian and mitochondrial inheritance and a 1 hour lecture on non-Mendelian inheritance and genetic individuality. Lecture content included cases/diseases that illustrated AR, AD and X-linked inheritance patterns, trinucleotide repeats, gonadal mosaicism and multifactorial inheritance. Assigned reading reviewed the above concepts as well as pedigree symbols and their interpretation. No specific preparation from students was required for the workshop itself. In the active learning classrooms, students seated themselves around 8 tables of 8. Each room had a moderator and 2 tutors. The moderator presented students with a series of activities; for each, students worked a set amount of time on their own and then participated in a large group discussion to reinforce learning points. The 3 faculty members moved from table to table, answering questions and providing feedback while the students worked. Cases began with basic skills and slowly increased in complexity:

(1) Pedigree drawing exercise, no disease
(2) Pedigree drawing exercise, family history of disease (sickle cell)
(3) Search for diagnosis for (2) and determination of appropriate confirmatory test
(4) Genetic risk assessment and preparation of counselling outline for sickle cell
(5) Search for diagnosis using pedigree with symptoms in AD pattern (neurofibromatosis I)
(6) Genetic risk assessment and preparation of counselling outline for NF
(7) Risk assessment for family history of multifactorial condition (depression)
(8) Preparation of counselling outline for complex traits

Lessons learned from teaching basic medical genetics skills in active learning classrooms fell into two main categories. Requirements include:

(1) Different teaching style - need dynamism, microphones, moderators to take turns, strict attention to time, acceptance of noise
(2) Diversity among tutors – need medical geneticist, PhD researcher, and genetic counsellor in each room to address wide variety of questions

Despite the challenges, we found our approach could effectively address a diversity in student backgrounds, learning styles and needs, and tutors reported a high degree of satisfaction.

SAVE THE DATE

21ST Annual APHMG Workshop and Special Interest Group Meetings

May 6 - 8, 2015

Sheraton Key Sands, Clearwater, Florida

APHMG REGISTRATION LIST

as of 04/30/2014

Monica Basehore, PhD
Greenwood Genetic Center
106 Gregor Mendel Circle
Greenwood, South Carolina 29646
Tel: (864) 388-1043
Email: mbasehore@ggc.org

Donald Basel, MD
Medical College of Wisconsin
8701 Watertown Plank Road
Milwaukee, Wisconsin 53226
Tel: (414) 266-2979
Email: dbasel@mcw.edu

Jon Bernstein, MD, PhD
Stanford University
300 Pasteur Dr. H-315
Stanford, California 94305
Tel: (650) 723-9527
Email: jon.bernstein@stanford.edu

Gerard Berry, MD
Boston Children's Hospital
Center for Life Science Building, Suite 14070
3 Blackfan Circle
Boston, Massachusetts 02115
Tel: (617) 355-4316
Email: gerard.berry@childrens.harvard.edu

Miriam Blitzer, PhD
University of Maryland School of Medicine
655 W. Baltimore Street, Room 7-039
Baltimore, Maryland 21201
Tel: (410) 706-4065
Email: mblitzer@peds.umaryland.edu

Maureen Bocian, MD, MS
University of California, Irvine School of Medicine
Division of Genetic and Genomic Medicine
UC Irvine Medical Center ZC4482
Orange, California 92868
Tel: (714) 456-6873
Email: mebocian@uci.edu

Neena Champaigne, MD
Greenwood Genetic Center
106 Gregor Mendel Circle
Greenwood, South Carolina 29646
Tel: (864) 388-1064
Email: neena@ggc.org

Michelle Cichon, MS
Wayne State University School of Medicine
540 E Canfield
Detroit, Michigan 48201
Tel: (313) 577-3982
Email: mcichon@med.wayne.edu

Tina Cowan, PhD
Stanford University
3375 Hillview Ave.
Biochemical Genetics Lab
Palo Alto, California 94304
Tel: (650) 724-7858
Email: tcowan@stanfordmed.org

Shoumita Dasgupta, PhD
Boston University School of Medicine
72 East Concord Street
L-317H
Boston, Massachusetts 02118
Tel: (617) 414-1580
Email: dasgupta@bu.edu

Debra Day-Salvatore, MD, PhD
Saint Peter's University Hospital
254 Easton Avenue
New Brunswick, New Jersey 08901
Tel: (732) 745-6659
Email: ddaysalvatore@saintpetersuh.com

Laurie Demmer, MD
Carolinas Medical Center
PO box 32861
Charlotte, North Carolina 28232
Tel: (704) 381-6810
Email: laurie.demmer@carolinashealthcare.org

George Diaz, MD, PhD
Icahn School of Medicine at Mount Sinai
1 Gustave L. Levy Place
New York, New York 10029
Tel: (212) 241-0858
Email: george.diaz@mssm.edu

Katrina Dipple, MD, PhD
UCLA
695 Charles E Young Drive S
Los Angeles, California 90095
Tel: (310) 825-1997
Email: kdipple@mednet.ucla.edu

Jianli Dong, MD, PhD
UTMB
301 Univ Blvd
Galveston, Texas 77555
Tel: (409) 772-4866
Email: jidong@utmb.edu

Laura Edgar, EdD, CAE
ACGME
515 N. State Street, Suite 2000
Chicago, Illinois 60654
Tel: (312) 755-5029
Email: ledgar@acgme.org

Jerry Feldman, MD, PhD
Wayne State University
540 East Canfield
2375 Scott Hall
Detroit, Michigan 48201
Tel: (313) 577-6298
Email: gfeldman@med.wayne.edu

Jennifer Fitzpatrick, MS
McGill University
1205 Dr. Penfiled Ave., N5/13
Montreal, Alberta H2A 1B1
Tel: (514) 934-1934
Email: jennifer.fitzpatrick@mcgill.ca

Michael Gambello, MD, PhD
Emory University School of Medicine
615 Michael Street
Suite 301
Atlanta, Georgia 30322
Tel: (404) 727-3875
Email: mgambel@emory.edu

Kate Garber, PhD
Emory University
615 Michael St., Suite 301
Atlanta, Georgia 30322
Tel: (4040 712-9985
Email: kgarbe2@emory.edu

Joseph Gilhooly, MD
Oregon Health & Science University
707 SW Gaines St CDRC-P
Portland, Oregon 97239
Tel: (503) 334-5040
Email: gilhooly@ohsu.edu

June-Anne Gold, MD
Loma Linda University Medical School
Suite 11121
11175 Campus St
Loma Linda, California 92350
Tel: (909) 558-4000
Email: june.anne.gold@gmail.com

Paula Gregory, PhD
LSUHSC
533 Bolivar Street
New Orleans, Louisiana 70112
Tel: (504) 568-6153
Email: pgrego@lsuhsc.edu

Wayne Grody, MD, PhD
UCLA School of Medicine
10833 Le Conte Ave.
UCLA School of Medicine
Los Angeles, California 90095
Tel: (310) 825-5648
Email: wgrody@mednet.ucla.edu

Don Hadley, MS, CGC
NHGRI/NIH
35 Convent Drive
1B205 MSC 3717
Bethesda, Maryland 20892
Tel: (301) 496-3980
Email: dhadley@mail.nih.gov

Melissa Henderson, PhD
Lincoln Memorial University
6965 Cumberland Gap Pkwy
Tazewell, Tennessee 37879
Tel: (423) 869-7135
Email: melissa.henderson@lmunet.edu

Fuki Hisama, MD
Univ of Washington
1959 NE Pacific St
Box 357720
Seattle, Washington 98195
Tel: (206) 598-4030
Email: fmh2@uw.edu

Jodi Hoffman, MD
Tufts Medical Center
800 Washington St
Box 340
Boston, Massachusetts 02111
Tel: (617) 636-7721
Email: jhoffman@tuftsmedicalcenter.org

Robert Hopkin, MD
Cincinnati Children's Hospital Medical Center
3333 Burnet AVenue
ML 4006
Cincinnati, Ohio 45229
Tel: (513) 636-2438
Email: rob.hopkin@cchmc.org

Alice Hudder, PhD
Lake Erie College of Osteopathic Medicine
1858 W. Grandview Blvd
Erie, Pennsylvania 16509
Tel: (814) 866-8158
Email: ahudder@lecom.edu

Katherine Hyland, PhD
University of California, San Francisco
513 Parnassus Ave, Room S1210
Box 0450
San Francisco, California 94143
Tel: (415) 502-8142
Email: katherine.hyland@ucsf.edu

Alejandro Iglesias, MD
Columbia University
3959 Broadway, CHONY North 718/726D
New York, New York 10032
Tel: (212) 305-6247
Email: ai2269@cumc.columbia.edu

Mira Irons, M.D.
American Board of Medical Specialties
222 N. LaSalle Street
Suite 1500
Chicago, Illinois 60601
Tel: (312) 436-2603
Email: mirons@abms.org

Linda Jeng, MD, PhD
University of Maryland, School of Medicine
655 W. Baltimore Street
Bressler 7-043
Baltimore, Maryland 21201
Tel: (410) 706-4505
Email: ljeng@som.umaryland.edu

Susan Klugman, MD
Montefiore Medical Center/Albert Einstein College of Medicine
1695 Eastchester Rd
Bronx, New York 10461
Tel: (718) 405-8150
Email: klugmd@verizon.net

Bruce Korf, MD, PhD
University of Alabama at Birmingham
Kaul 230
1720 2nd Avenue South
Birmingham, Alabama 35294
Tel: (205) 934-9411
Email: bkorf@uabmc.edu

Shashikant Kulkarni, PhD
Washington University School of Medicine
660 South Euclid Ave.
Box 8118
Saint Louis, Missouri 63110
Tel: (314) 454-8418
Email: adodson@wustl.edu

Jennifer Laffin, PhD
UW Madison
465 Henry Mall
Madison, Wisconsin 53706
Tel: (608) 262-0402
Email: jjlaffin@wisc.edu

Nicola Longo, MD, PhD
University of Utah
2C412 SOM
50 North Mario Capecchi Drive
Salt Lake City, Utah 84132
Tel: (801) 585-2457
Email: nicola.longo@hsc.utah.edu

Teri Manolio, MD, PhD
NIH/NHGRI
5635 Fishers Lane
Suite 4076-MSC 9305
Bethesda, Maryland 20892
Tel: (301) 435-5584
Email: carmen.demetriou@nih.gov

Donna Martin, MD, PhD
University of Michigan
1150 W. Medical Center Drive
3520D MSRB I
Ann Arbor, Michigan 48109
Tel: (734) 763-6767
Email: donnamm@umich.edu

Shawn McCandless, MD
Case Western Reserve University
11100 Euclid Ave
Suite LKS 1500
Cleveland, Ohio 44106
Tel: (216) 844-3936
Email: shawn.mccandless@case.edu

Jeanette McCarthy, MPH, PhD
UCSF School of Medicine
513 Parnassus Ave.
San Francisco, California 94143
Email: jeanette.mccarthy@ucsf.edu

Robb Moses, M.D.
Baylor College of Medicine
One Baylor Plaza
M130
Houston, Texas 77005
Tel: (713) 798-8085
Email: remoses@bcm.edu

Max Muenke, MD
NHGRI/NIH
35 Convent Drive
1B203 MSC3717
Bethesda, Maryland 20892
Tel: (301) 402-8167
Email: mamuenke@mail.nih.gov

Joanne Nguyen, MD
University of Texas Houston
6431 fannin
MSB 3.142
Houston, Texas 77030
Tel: (713) 500-5760
Email: joanne.v.nguyen@uth.tmc.edu

Hope Northrup, MD
UTHealth
6431 Fannin, MSB 3.142
Houston, Texas 77030
Tel: (713) 500-5760
Email: hope.northrup@uth.tmc.edu

Susan Olson, PhD
Oregon Health & Science University
3181 SW Sam Jackson Park Road
MP350
Portland, Oregon 97239
Tel: (503) 494-5964
Email: olsonsu@ohsu.edu

Arti Pandya, MD MBA
Virginia Commonwealth University
1101 E Marshall St
11-048 Sanger Hall
Richmond, Virginia 23298
Tel: (804) 628-4082
Email: apandya@mcvh-vcu.edu

Aditi Parikh, MD
University Hospitals Case Medical Center
11100 Euclid Ave
Lakeside 1500
Cleveland, Ohio 44106
Tel: (216) 844-3936
Email: aditiparikhmd@gmail.com

Jevon Plunkett-Rondeau, PhD
Stanford University School of Medicine
291 Campus Drive
Stanford, California 94305
Tel: (650) 723-6028
Email: jevon.plunkett@gmail.com

Lorraine Potocki, MD
Baylor College of Medicine/Texas Children's Hospital
6701 Fannin Street
Suite 1560
Houston, Texas 77030
Tel: (832) 822-4290
Email: lpotocki@bcm.edu

Cynthia Powell, MD
Univeristy of North Carolina at Chapel Hill
CB #7487
Med School Wing E room 118
Chapel Hill, North Carolina 27599
Tel: (919) 966-4202
Email: powellcm@med.unc.edu

Reed Pyeritz, MD, PhD
Perelman School of Medicine
University of Pennsylvania
3400 Civic Center Blvd
SCTR 11-133
Philadelphia, Pennsylvania 19104
Tel: (215) 573-5746
Email: reed.pyeritz@uphs.upenn.edu

Aleksandar Rajkovic, MD, PhD
University of Pittsburgh/Magee-Womens Research Institute
Magee-Womens Research Institute
204 Craft Avenue, A224
Pittsburgh, Pennsylvania 15213
Tel: (412) 641-8635
Email: rajkovic@upmc.edu

Katherine Rauen, MD, PhD
UC Davis, MIND Institute
2825 50th Street, Room #2284
Sacramento, California 95817
Tel: (916) 703-0382
Email: rauen@ucdavis.edu

Kate Reed, MPH, ScM, CGC
The Jackson Laboratory
600 Main Street
Bar Harbor, Maine 04609
Tel: (410) 299-8623
Email: Kate.reed@jax.com

Debra Regier, MD, PhD
NHGRI/NIH
10 Center Drive
3-2551
Bethesda, Maryland 20892
Tel: (301) 827-0926
Email: debra.regier@nih.gov

Jacquelyn Roberson, MD
Henry Ford Hospital
3031 W Grand Blvd.
Suite 700
Detroit, Michigan 48202
Tel: (313) 916-3115
Email: jrobers1@hfhs.org

Nathaniel Robin, MD
UAB
KAUL 210
720 20th Street South
Birmingham, Alabama 35294
Tel: (205) 934-9528
Email: nrobin@uab.edu

Ellen Rothstein, JD
Boston Children's Hospital
300 Longwood Ave
Boston, Massachusetts 02115
Tel: (617) 355-6000
Email: Ellen.Rothstein@childrens.harvard.edu

Stephanie Sacharow, MD
University of Miami Miller School of Medicine
1501 NW 10th Avenue
Miami, Florida 33136
Tel: (305) 243-7985
Email: ssacharow@med.miami.edu

Jone Sampson, PhD
Oregon Health & Sciences University
3181 SW Sam Jackson Park Road
L103
Portland, Oregon 97239
Tel: (503) 494-7210
Email: sampsojo@ohsu.edu

Rhona Schreck, PhD
Cedars-Sinai Medical Center
SSB 361; 8700 Beverly Blvd.
Los Angeles, California 90048
Tel: (310) 423-2878
Email: rhona.schreck@csmc.edu

Joseph Shieh, MD PhD
University of California San Francisco
513 Parnassus Ave, Box 0706
San Francisco, California 94143
Tel: (415) 476-9347
Email: shiehj2@humgen.ucsf.edu

Andrew Sobering, PhD
St. George's University
School of Medicine
P.O. Box 7
St. George's, Grenada
Email: asobering@sgu.edu

Joan Stoler, MD
Boston Children's Hospital
300 Longwood Avenue
Honnewell 536
Boston, Massachusetts 02115
Tel: (617) 355-4697
Email: joan.stoler@childrens.harvard.edu

V. Reid Sutton, MD
Baylor College of Medicine
6701 Fannin St, Suite 1560
Houston, Texas 77030
Tel: (832) 822-4292
Email: vrsutton@texaschildrens.org

Janet Thomas, MD
University of Colorado School of Medicine
13123 E 16th Ave.
B-153 8400
Aurora, Colorado 80045
Tel: (303) 724-2334
Email: janet.thomas@childrenscolorado.org

Helga Toriello, PhD
Michigan State University
15 Michigan St.
room 363
Grand Rapids, Michigan 49503
Tel: (616) 234-2712
Email: toriello@msu.edu

Darrel Waggoner, MD
University of Chicago
5841 S Maryland AVe
M/C 0077
Chicago, Illinois 60637
Tel: (773) 834-9110
Email: dwaggone@genetics.uchicago.edu

Tao Wang, MD PhD
Johns Hopkins University
733 North Broadway
MRB547
Baltimore, Maryland 21205
Tel: (443) 287-3525
Email: twang9@jhmi.edu

David Wargowski, MD
University of Wisconsin - Madison
1500 Highland Ave
Madison, Wisconsin 53705
Tel: (608) 263-8687
Email: wargowski@pediatrics.wisc.edu

Michael Watson, PhD
ACMG
7220 Wisconsin Avenue
Suite 300
Bethesda, Maryland 20814
Tel: (301) 718-9603
Email: mwatson@acmg.net

Tracey Weiler, PhD
Florida International University
11200 SW 8th Street
AHC2-693
Miami, Florida 33199
Tel: (305) 348-4547
Email: mortega@fiu.edu

Karen Weissbecker, PhD
Tulane University School of Medicine
1430 Tulane Ave, SL-31
New Orleans, Louisiana 70112
Tel: (504) 988-6242
Email: kremer@tulane.edu

Klaas Wierenga, MD
The University of Oklahoma Health Sciences Center
1200 Children's Ave
Suite 12100
Oklahoma City, Oklahoma 73104
Tel: (405) 271-8685
Email: klaas-wierenga@ouhsc.edu

Marcia Willing, MD PhD
Washington University in St. Louis
One Children's Place
Division of Genetics and Genomic Med 8116
Saint Louis, Missouri 63110
Tel: (314) 454-6093
Email: willing_m@kids.wustl.edu

Wynshaw-Boris, MD, PhD
CWRU School of Medicine
10900 Euclid Ave.
BRB731
Cleveland, Ohio 44106
Tel: (216) 368-0581
Email: ajw168@case.edu

Beverly Yashar, MS, PhD
University of Michigan
1241 E Catherine Street
Ann Arbor, Michigan 48109
Tel: (734) 763-2933
Email: yashar@umich.edu